



Gwasanaeth Ynni  
Energy Service

# Power offtaker options

Briefing note



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V1	For circulation	September 2022
<b>V2</b>	Updated to include information on Contracts for Difference (CfDs)	November 2022

*Note: This version of the report was published in November 2022 and based on established market structures at that time. At the point of publication, significant uncertainty remains over the operational details of the UK Government's Energy Price Guarantee and Energy Bill Relief Scheme for consumers, and proposed Cost-Plus-Revenue Limit for low carbon generation in England and Wales. Therefore, these measures have not been considered in this report.*

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# About the Welsh Government Energy Service

## Who we are

The Welsh Government Energy Service works with the **public sector** and **community enterprises** to:

- reduce energy use
- generate locally owned, renewable energy
- reduce carbon emissions

## What we do

We offer technical, commercial and procurement advice and support to help turn energy projects into reality.

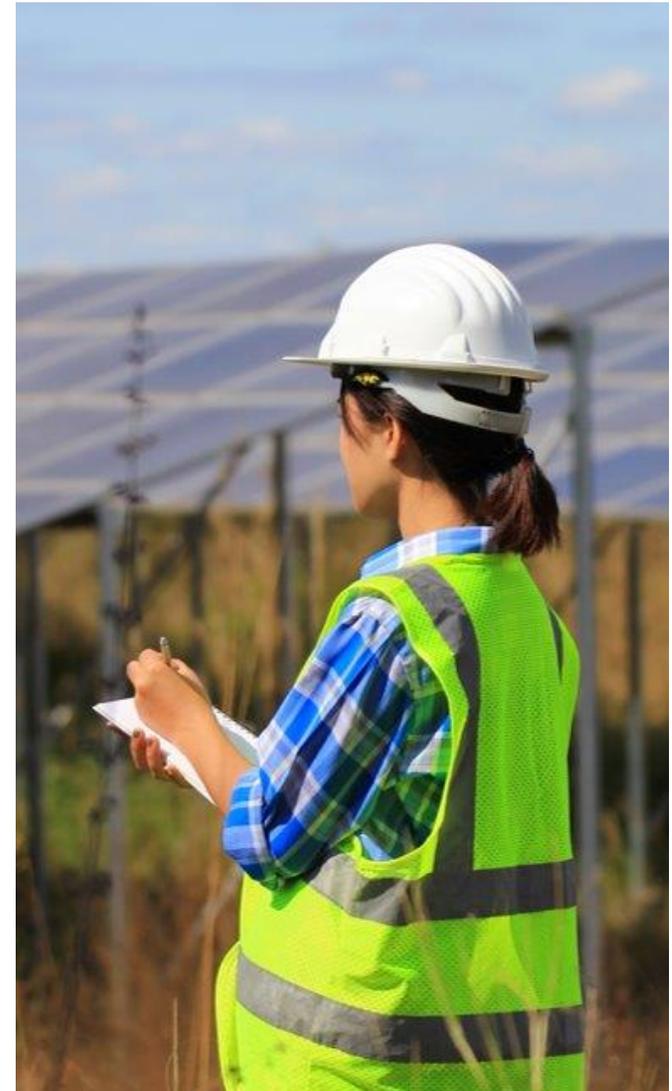
## How we are funded

The Energy Service is a five-year programme funded by the Welsh Government, running from 2018 to 2023.

## Our projects

We work on:

- **regional energy planning**
- **energy efficiency**
- **renewable energy**
- **ultra-low emission vehicles**



# 1. Power Purchase Agreements (PPAs)

Electricity generated by a renewable energy generation asset, such as a wind turbine or solar farm, can be:

- **Exported to the electricity network** (“grid export”);
- **Used directly by a consumer (onsite or nearby) via a direct electricity connection**, if located in close enough proximity (“private wire”); or
- **A combination of both.**

Power Purchase Agreements (PPAs) govern the sale of electricity from one party to another (regardless of whether the connection is via grid export or direct connection) and apply to both import and export of power. They are typically agreed between a generator and either a licensed supplier or end consumer.

The Power Purchase Agreement sets out the terms regarding the electricity sale, e.g., price, availability, duration. Private wire Power Purchase Agreements may also set out responsibilities relating to the maintenance of a private wire asset.

## What do Power Purchase Agreements include?

Power Purchase Agreements cover the sale of electricity. They can also cover:

- Renewable Energy Guarantee of Origin (REGO) certificates,
- Embedded benefits / costs,
- Balancing services, and
- Electricity import.

## Power price discrepancies

The electricity price provided in a Power Purchase Agreement is **not directly comparable** to the price a consumer pays for grid-supplied electricity, for any type of PPA. This is because a consumer's electricity bill includes additional costs associated with network costs, environmental/social obligation costs, operating costs, supplier pre-tax profits etc.

## Smart Export Guarantee

The “**Smart Export Guarantee**” (SEG) requires larger licensed electricity suppliers to offer a tariff to low carbon generators of up to 5 MW capacity for electricity exported to the grid. Smaller suppliers can choose to provide this. The tariff operates as per standard fixed / flexible PPAs. The Solar Trade Association monitor SEG prices on their website: <https://solarenergyuk.org/resource/smart-export-guarantee/>.

## Variations

The details in this document provide key points on the main “business as usual” PPA types available on the market. Innovative business models are being introduced and tested to support consumers and further renewable energy deployment. These business models tend to be based on variations of the key PPA types described in this document.

## Power Purchase Agreement types

PPA type	Key points
<p><b>Private Wire PPA</b> (e.g. <a href="#">Cardiff Council's Lamby Way Solar Farm supplies Welsh Water</a>)</p>	<p>Private wire PPAs are only pursued if there is a sufficiently large consumer near the generation asset.</p> <p>Whilst it is straight forward to supply one consumer, supplying multiple consumers is complicated both with respect to technical and regulatory complexity.</p>
<p><b>Merchant PPA: Fixed PPA between generator &amp; licensed supplier / balancing party</b></p>	<p>Fixed PPAs with licensed suppliers / balancing parties are convened via the electricity network.</p> <p>They are relatively straight forward to understand and secure but are typically short-term in nature (&lt;4 years) and therefore the business model is open to longer term power price fluctuations.</p>
<p><b>Merchant PPA: Flexible PPA between generator &amp; licensed supplier / balancing party</b></p>	<p>Flexible PPAs with licensed suppliers / balancing parties are convened via the electricity network.</p> <p>Flexible PPAs are similar to the fixed PPA, but the price paid to the generator tracks the wholesale electricity price, either on a seasonal, monthly or daily basis or in real time – exposing the project to different levels of power price volatility.</p>
<p><b>Merchant PPA: Fixed / Flexible combined PPA between generator &amp; licensed supplier / balancing party</b></p>	<p>Fixed / flexible combined PPAs allow generators to switch between a fixed price PPA and a flexible PPA.</p> <p>As this type of PPA provides more certainty for the generator, the price offered may be lower than under a flexible PPA at the same point in time.</p>

PPA type	Key points
<p><b>Corporate PPA: Sleeved / Physical PPA between generator &amp; consumer via licensed supplier</b> (e.g. <a href="#">Warrington Borough Council's sleeving arrangement with their own solar farm at Hull</a>)</p>	<p>Corporate sleeved PPAs are convened via the electricity network and require a licensed electricity supplier to facilitate them.</p> <p>A sleeved PPA allows a consumer to buy electricity directly from a generator without a private wire. The consumer will still need to pay the non-commodity costs that make up the final electricity supply cost and any administration fees the supplier applies.</p> <p>Sleeved PPAs are attractive to consumers who want to know where they are buying electricity from and are attractive to generators as they tend to provide longer term price certainty than merchant PPAs.</p>
<p><b>Corporate PPA: Virtual / Synthetic PPA between generator &amp; consumer</b></p>	<p>Corporate virtual / synthetic PPAs are a purely financial structure with no physical delivery of power between the generator and consumer, based on a strike price agreed between the consumer and generator. As there is no physical delivery of power, a licensed supplier/balancing party is not involved in the virtual / synthetic PPA. However, the generator does need to enter into a merchant flexible PPA with a licensed supplier alongside a virtual PPA to follow the physical sale of power.</p> <p>This type of PPA is attractive to both consumer and generator as it provides price certainty regardless of wider market fluctuations.</p>

PPA type	Key points
<p><b>Contract for Difference (CfD) PPA</b></p>	<p>A Contract for Difference (CfD) is a UK Government mechanism to support low carbon generation. The generator is responsible for selling their power on the wholesale market. Separately, under the CfD contract, the generator is also paid (or pays) the difference between a wholesale market reference price and their agreed strike price set out in the CfD contract.</p> <p>Some suppliers offer PPAs designed for generators with a CfD. Whilst a CfD PPA is not obligatory for generators with a CfD, a CfD PPA ensures that the generator sells their electricity at a price close to the market reference price used in the CfD contract. This minimises price risk to the generator.</p> <p>This structure is similar to the Virtual PPA arrangement (above) where the sale of electricity into the wholesale market is managed separately to the financial transactions between the generator and counterparty based on the agreed strike price.</p>

## 2. Embedded benefits, embedded costs and REGOs

### Overview

In addition to the sale of electricity, it is important to understand the concept of “embedded benefits” and Renewable Energy Guarantee of Origin (REGO) certificates.

### Embedded benefits – relevant to merchant PPAs and CfD PPAs

- Traditionally “embedded generators” (small generation assets (<100MW) connected to the distribution network) have led to a reduction in various costs to suppliers and network operators. A proportion of these cost reductions have been passed on to generators as “embedded benefits”, with the pass through rates provided set-out in the merchant or CfD PPA agreement.
- As the number of “embedded generators” has increased, Ofgem, the regulator, has begun to review whether the continuing award of these embedded benefits is fair.
- Ofgem has launched several reviews relating to embedded benefits, some of which have been concluded and others which are ongoing.
- In general the reviews are resulting in the value of embedded benefits reducing and, in some cases, additional costs may be incurred by generators as “embedded costs”.
- When reviewing Power Purchase Agreements the treatment of embedded benefits and embedded costs should be considered and potential future changes should be included in financial modelling. It may be necessary to access external expertise to support with this.
- Embedded benefits include (but are not limited to) the Embedded Export Tariff, payable to embedded generators in some GB regions under the Transmission Network Use of System (TNUoS) charging regime.

## Renewable Energy Guarantees Origin (REGOs)

- One REGO certificate is issued by Ofgem to a generator for every MWh of renewable electricity generated.
- Suppliers purchase REGOs to show what proportion of electricity they source from renewable generation.
- The purchase of REGOs can be covered in a PPA alongside the purchase of electricity but it does not have to be – REGO certificates can be retained and sold separately. This is true of private wire PPAs, corporate PPAs and merchant PPAs.
- The value of REGOs fluctuate, in January 2019, a typical offer was 30 p/REGO, in [December 2021 e-power](#) announced an average price for “deep green” REGOs of £6.25 per certificate (“deep green” REGOs are those that are awarded to non-fuelled generators, e.g. solar PV). Whilst this shows a great increase in the value of REGOs between 2019 and 2021, it is anticipated that in the medium-term as more renewable energy generation is commissioned the value of REGOs will fall again.

### 3. Private wire PPA

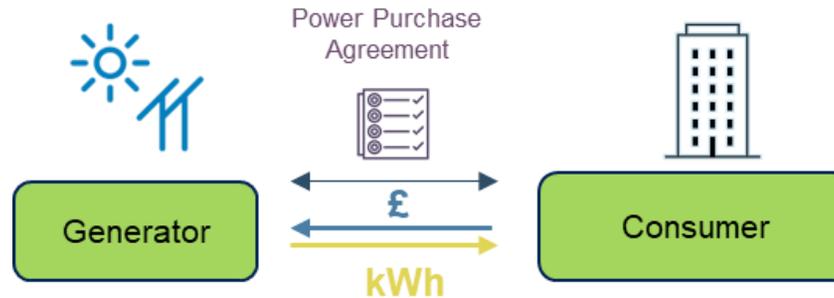


Figure 1: Diagram visualising the Private Wire Power Purchase Agreement. It is preferable to also have a grid export option in case the consumer does not use all the generated electricity. The export may be on the consumer side or the generator side.

#### Summary

**The consumer is connected directly** to the generator via a **private wire or private network**, and consumes electricity generated by the generator directly.

**The power price can be a set fixed price for the duration of the project** (as a flat tariff or time-of-day/season tariff) or be a flexible tariff that tracks another pricing mechanism (e.g., the private wire PPA could provide a fixed/certain discount on the price secured by the consumer for grid imported electricity)

The PPA may include transfer of REGOs to the consumer but does not have to.

**A private wire arrangement can allow for an uplift in power price** for the generator and the consumer due to the avoidance of non-commodity costs included in grid import electricity bills.

**For more information on private wire projects refer to the Welsh Government Energy Service's [Best Practice Note on Private Wires](#)**

## Private wire PPA details

### Duration

**The PPA duration is typically longer than grid export PPAs and need to be set to the term required** to justify the **upfront investment of the private wire** (and in the case of there being no other export arrangements the generation asset itself).

At the end of the initial PPA period it may be possible to extend the private wire PPA or change the arrangement, so the generator exports to grid only.

### Providers

**There needs to be confidence that the consumer will be able to meet the duration of the PPA.** Private wire PPAs with established public sector bodies or utility providers are preferable to smaller or more transient private companies.

**The provider needs to be located within relative proximity to the generation asset.** The distance limit will depend on **the technology type and generator / demand size** and would need to be modelled, but the consumer is likely to need to be within 3km of the generator.

### Complexity

Private wire PPAs are relatively common, but **lawyers will be required on both sides (consumer and generator) to draft contract terms.**

**Planning permission will be required** for the private wire, and **site-specific conditions will determine the complexity** associated with this. Land rights will also need to be secured. For local authority generators this may be more straight forward if they are able to utilise land within the highway boundary.

It is relatively straight-forward to supply one consumer; complexity increases significantly when supplying more than one consumer.

### Price certainty

**The price or pricing mechanism will be set out in the PPA terms.** The contract can require a **“take or pay” clause**, where consumers are required to pay for all of the generation and can also include **“cap and collar rates”** to provide price certainty for both sides, regardless of the pricing mechanism.

## 4. Merchant PPA: Fixed PPA

### Fixed PPA with licensed supplier / balancing party

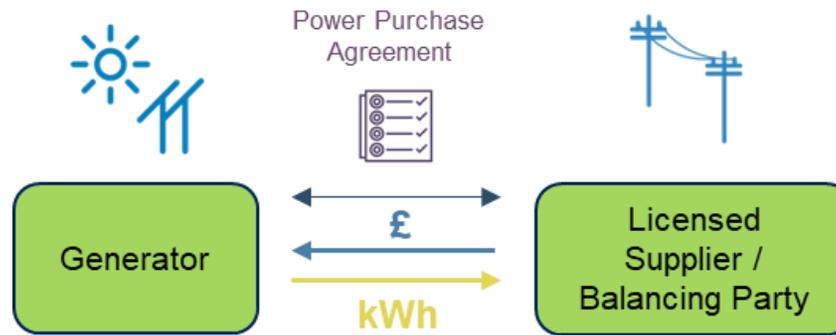


Figure 2: Diagram showing the fixed PPA with licensed supplier / balancing party: Elsewhere in the energy system consumers purchase grid electricity from licensed suppliers, this can similarly be at a fixed or flexible price.

#### Summary

The generator is paid a set p/kWh for all generation **over a fixed term**.

The price may be a **flat tariff or time-of-day/season tariff**.

The pass through of any embedded benefits or costs will be detailed in the PPA and should be reviewed.

## **Fixed PPA with licensed supplier / balancing party details**

### **Duration**

Suppliers typically offer a **fixed price PPA for up to 4 years**.

At the end of this period the generator will need **to enter a new PPA arrangement**.

**Longer term PPAs are possible** (up to 15 years) however they tend to provide lower prices, or the price is only fixed for the first couple of years and then tracks the wholesale price.

### **Providers**

**Several licensed suppliers offer fixed price PPAs.**

Generators can approach suppliers directly for quotes or via a third party (e.g., a framework or agent). PPAs can also be obtained via auction (e.g. E-power) where suppliers bid for renewable generation contracts

Some suppliers will only fix the PPA terms shortly before the contract start date, whereas others are happy to fix further in advance.

### **Complexity**

Fixed PPAs are **straight-forward to obtain**, but the ability **to dictate terms is severely limited**.

Contract terms are fairly standard and generic but should be reviewed by the generator's legal team.

### **Price certainty**

Provides **short-term price certainty**.

Datasets are available from specialist organisations that forecast energy prices into the future, however there is **no certainty of power price outside of the duration of the PPA term**.

## 5. Merchant PPA: Flexible PPA

### Flexible PPA with licensed supplier / balancing party

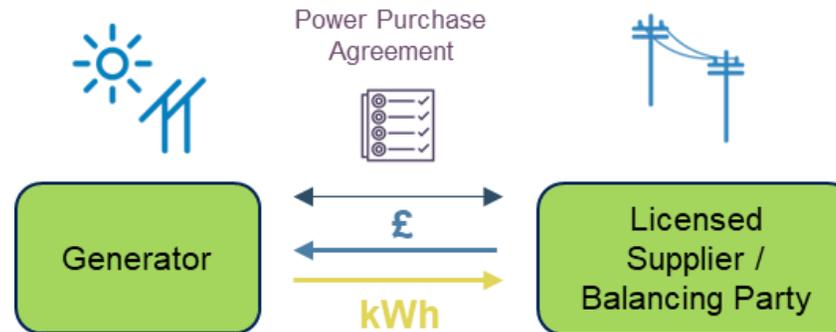


Figure 3: Diagram showing the flexible PPA with supplier / balancing party. Elsewhere in the energy system consumers purchase grid electricity from licensed suppliers, this can similarly be at a fixed or flexible price.

#### Summary

**Similar to the fixed PPA**, but the **price paid to the generator tracks the wholesale electricity price**, either on a seasonal, monthly or daily basis or in real time – exposing the project to different levels of power price volatility.

The pass through of any embedded benefits or costs will be detailed in the PPA and should be reviewed.

## **Flexible PPA with licensed supplier / balancing party details**

### **Duration**

Suppliers typically **offer a flexible price PPA for up to ~5 years.**

At the end of this period the generator will **need to enter a new PPA arrangement.**

A flexible price might be part of a longer-term PPA where the price is fixed for the first couple of years.

### **Providers**

Several licensed suppliers **offer flexible price PPAs.**

**Generators can approach suppliers directly for quotes or via a third party** (e.g., a framework or agent).

### **Complexity**

As per Fixed PPAs, **Flexible PPAs are straight-forward to obtain**, but the ability to **dictate terms is severely limited.**

Contract terms are fairly standard and generic but should be reviewed by the generator's legal team.

### **Price certainty**

Some PPAs include a "**price floor**" and a "**price ceiling**".

Flexible PPAs **are wholesale market dependent**, so **hold greater financial uncertainty than a fixed price PPA** on a short-term basis and can even result in negative pricing if positive price floors are not included.

Datasets are available from specialist organisations that forecast energy prices into the future.

## 6. Merchant PPA: Fixed / Flexible combined PPA

### Fixed / Flexible combined PPA with licensed supplier / balancing party

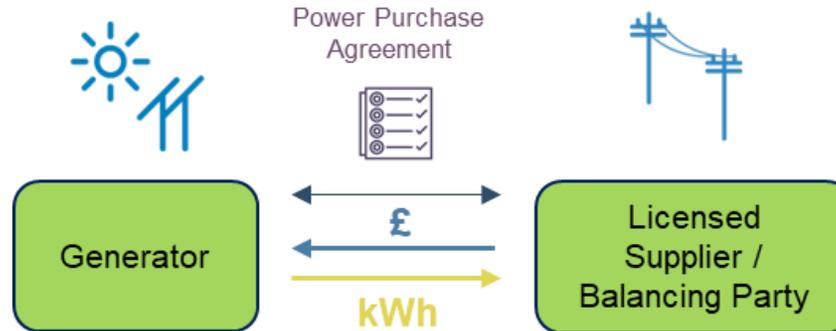


Figure 4: Diagram showing fixed / flexible combined PPA with licensed supplier / balancing party. Elsewhere in the energy system consumers purchase grid electricity from licensed suppliers, this can similarly be at a fixed or flexible price

### Summary

Fixed / flexible combined PPAs **allow generators to switch between a fixed price PPA and a flexible PPA.**

As this type of PPA provides **more certainty for the generator, the price offered may be lower than under a flexible PPA** at the same point in time.

The pass through of any embedded benefits or costs will be detailed in the PPA and should be reviewed.

**Fixed / Flexible combined PPA with licensed supplier / balancing party**

<b>Duration</b>
PPA durations are likely to be similar to fixed PPAs.
<b>Providers</b>
Combined PPAs are less common than fixed or flexible options. <b>Generators can approach suppliers directly for quotes</b> or via a third party (e.g., an agent).
<b>Complexity</b>
Contract terms are fairly standard and generic; however, they are likely to be slightly more complex than terms associated with a fixed or flexible PPAs. Terms should be reviewed by the generator’s legal team. Combined PPAs require <b>active management, or a party appointed to manage the asset on the generator’s behalf, which will incur a cost.</b>
<b>Price certainty</b>
Combined PPAs provide more price certainty to generators who can switch to a fixed price during volatile periods in the wholesale market.

## 7. Corporate PPA: Physical or Sleeved PPA

### Physical or Sleeved PPA with Consumer

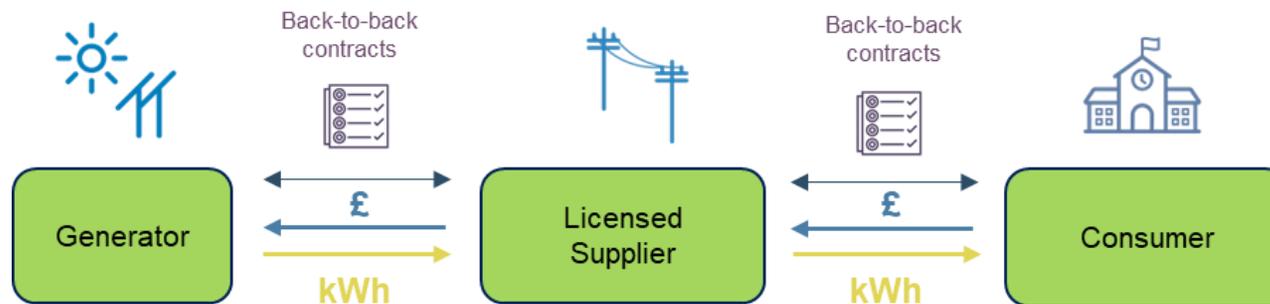


Figure 5: Diagram showing the physical or sleeved PPA with consumer.

### Summary

A sleeved PPA allows a **consumer to buy electricity directly from a generator without a private wire**. A licensed supplier is required, who enters into **back-to-back contracts** with the generator and consumer. The consumer agrees to buy electricity from the generator at **either a fixed or flexible price, as per the merchant PPAs described**.

**The consumer will still need to pay the non-commodity costs** (network costs, environmental/social obligation costs, other direct costs, operating costs, supplier pre-tax margin, and VAT) that make up the final electricity supply cost and any sleeving administration / balancing costs levied by the licensed supplier.

**Time of generation and demand** are typically **time matched in sleeved PPAs**. The consumer will purchase any additional electricity requirements from the supplier and surplus generation will be traded by the supplier, with both subject to different prices / fees.

## Physical or Sleeved PPA with Consumer details

### Duration

PPA durations are **subject to negotiations** between the consumer, generator and supplier but **tend to be longer term than merchant PPAs**.

### Providers

Sleeved PPAs could be arranged with a corporate consumer or could be put in place with the owner of the generation asset **for energy consumption at their other sites, for instance where a private wire is not feasible**.

Not all suppliers provide sleeving arrangements, suppliers can be approached directly or via a third party (e.g., an agent or framework, such as Crown Commercial Services energy agreements).

Allowance for sleeving arrangements could be included within a consumer's electricity supply agreements.

### Complexity

Contracting terms are **more complex than a fixed / flexible merchant PPA**, and specialist legal advice is likely to be required. They are also relatively **complex to put in place and typically incur a cost**.

**If sleeving and balancing are not options** within the existing supply arrangement it is likely that the **sleeving arrangement could not be put in place until the supply arrangement is renewed**.

### Price certainty

The main benefit of a sleeved electricity PPA is that it **provides price certainty to both sides of the arrangement**. Allocating a proportion of demand to a sleeved PPA may impact the price of any remaining electricity requirements.

## 8. Corporate PPA: Virtual or synthetic PPA

### Virtual / synthetic PPA with consumer

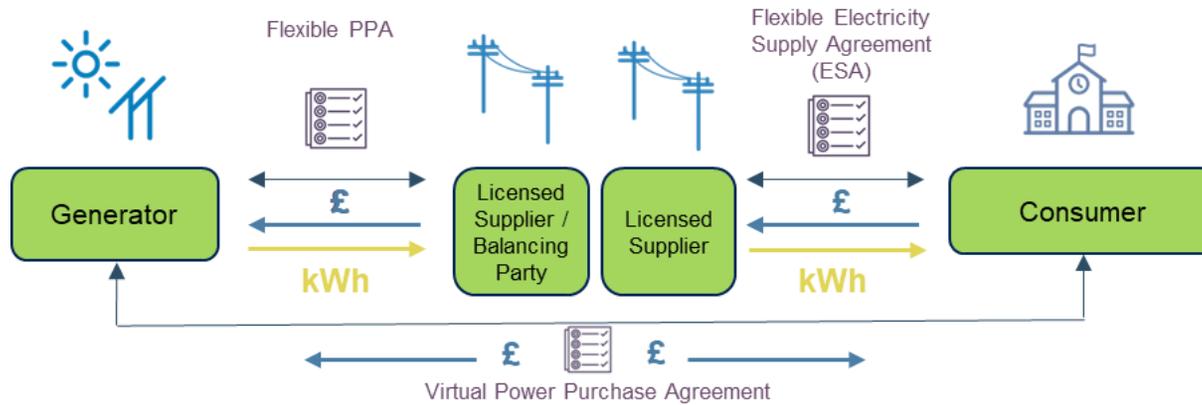


Figure 6: Diagram showing the virtual / synthetic PPA with consumer.

### Summary

A Virtual PPA is a purely **financial structure between the generator and consumer, with no physical delivery of power.**

The generator also enters a separate flexible PPA with a licensed electricity supplier.

The consumer buys electricity from a licensed supplier through an Energy Supply Agreement (ESA). This does not need to be the same supplier that the generator enters into the flexible PPA with.

The consumer and the generator agree a **strike price for the electricity** and **depending on the market price at the time of sale the price difference is exchanged between the two parties.**

## Virtual / synthetic PPA with consumer details

### Duration

Virtual PPA durations are subject to negotiations between the consumer and generator but tend to be longer term than merchant PPAs.

### Providers

A **merchant flexible PPA will still be required** as will a **standard electricity supply agreement** for the consumer. However, a licensed supplier will not need to be directly involved in the virtual PPA.

### Complexity

Contract terms set out the method for **calculating payments between the parties, establishing the strike price, how the wholesale price is measured (index used and how often), metering requirements and reconciliation periods.** Likely to require specialist advice / management.

The main drawback of synthetic PPAs is that they are **treated as a derivative in financial terms** and need to be **reported on the balance sheet.** They are however **much quicker / cheaper** to enact than a sleeved PPA.

### Price certainty

Provides **price certainty** to the generator and a **'hedge'** to the consumer **against volatile market prices.** To avoid price risk exposure the flexible PPA and ESA should track the wholesale price over a similar timeframe or follow a given index.

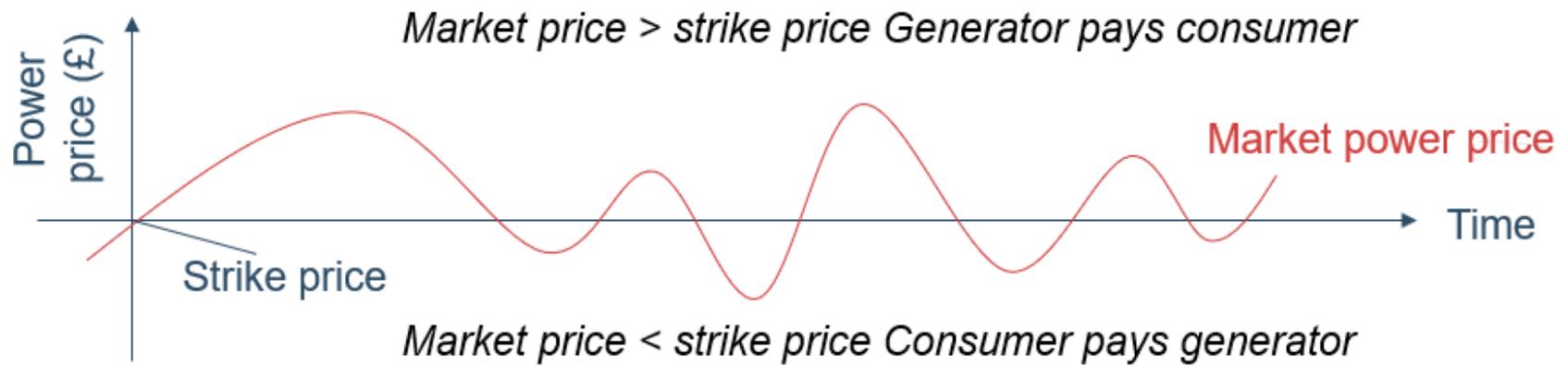


Figure 7: Line chart showing Power Price (£) against Time, to show the market power price.

## 9. Contract for Difference (CfD) PPA

### Contract for Difference Structure

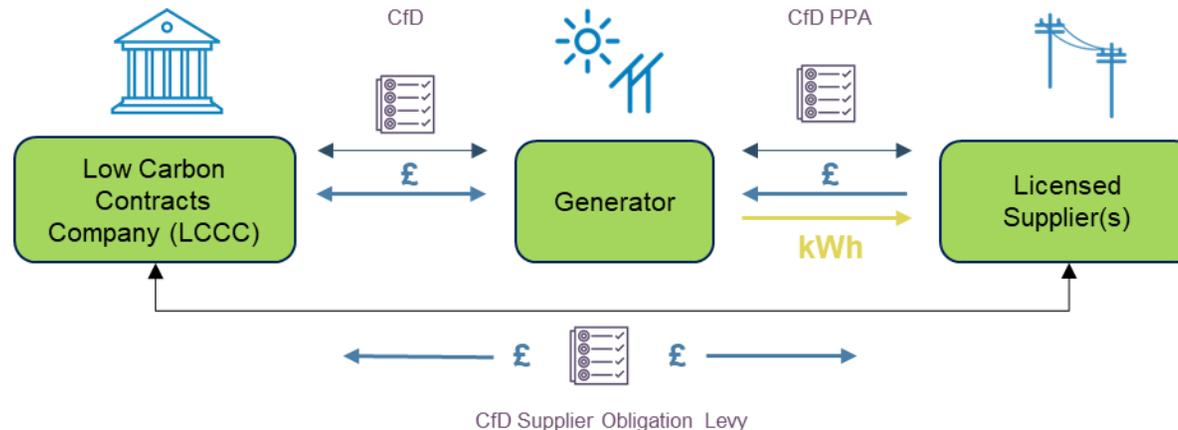


Figure 8: Diagram showing CfD with LCCC and corresponding PPA with a licensed supplier. Elsewhere in the energy system consumers purchase grid electricity from licensed suppliers, this can similarly be at a fixed / flexible price

### Summary

A Contract for Difference (CfD) is a mechanism introduced by the UK Government to provide **price stability** to new renewable generators. A CfD is awarded to a generator following a **competitive auction** which sets the **strike price**. The CfD mechanism is very similar to the Virtual PPA described in the previous section.

The generator also needs to sell their electricity into the wholesale market. **A Power Purchase Agreement (PPA) with a licensed electricity supplier** structured specifically for generators with a CfD is a way to do this.

The CfD contract pays generators based on the difference between a **reference price** and the **strike price**. For intermittent generation (e.g. wind and solar), the reference price is based on the hourly day-ahead wholesale market price. When the reference price is higher than the strike price, the generator must pay the difference between the two. Similarly, if the reference price is lower than the strike price (but greater than £0/MWh) then the generator is paid the difference

between the two prices. **However, if the hourly reference price falls below £0/MWh, the generator receives no payment through the CfD for any generation in that hour.**

Any payments to generators are funded by licensed energy suppliers through the CfD supplier obligation levy. Similarly, any payments made by generators are distributed to suppliers by the LCCC.

### ***Contract for Difference details***

#### **Eligibility**

At the start of each auction, the UK Government confirms which technologies are eligible, and in which years the projects can be commissioned. In the most recent auction (AR4, 2022) the technology list included **solar PV (>5MW)** and **onshore wind (>5MW)**, amongst others. It was open to projects commissioning between financial years 2023/4 and 2026/7.

At the start of the auction round, the government also confirm any other pre-application eligibility criteria; this normally includes a requirement for each project to have a **grid connection agreement** and **planning consent**. Projects are **not** eligible for a CfD if they have already been commissioned.

#### **Duration**

##### **A Contract for Difference has a 15-year term.**

The CfD contract – which is signed before the generator is operational – includes a Target Commissioning Window. The duration of this window varies by technology. If commissioning is completed within this window and the contract Start Date is initiated by the generator, the generator will receive payments for the full 15 years from the start date. If commissioning (and Start Date initiation) is delayed beyond this target window, the term of the CfD will still start at the end of the Target Commissioning Window (effectively reducing the period of time the generator receives support under the CfD).

The Target Commissioning Window cannot be changed, except in the event of Force Majeure or grid delays.

## Providers

Policy and funding decisions affecting **Contracts for Difference** are made by **the UK Government Department for Business, Energy and Industrial Strategy (BEIS)**. The auction is run by the **Electricity Market Reform Delivery Body (National Grid ESO)**. Successful generators enter into the Contract for Difference with the **Low Carbon Contracts Company (LCCC)**, a government-owned company. Payments under the CfD are administered by **EMR Settlement Ltd** on behalf of the LCCC.

The generator is free to choose how they sell their electricity to the market. If they opt for a CfD PPA with a **licensed supplier** this would complement the structure of the CfD by ensuring the generator receives an electricity price as close to the CfD reference price as possible. This minimises the price risk for the generator.

## Complexity

The Contract for Difference contract templates are available on the BEIS website. In the most recent auction (AR4, 2022) the CfD contract comprised two parts:

- **the specific front-end CfD Agreement.** This is around 30 pages long and specifies the project characteristics and notes any amendments to the standard terms and conditions.
- **the Standard Terms and Conditions.** This is 542 pages long, but not all sections are relevant to all generating technologies.

A CfD PPA should reflect the terms of the main Contract for Difference, to minimise risk to the generator. Both should be reviewed by the generator's legal team.

## Price certainty

The CfD is intended to provide **price certainty** to the generator. To realise this price certainty, the generator must ensure that the PPA they enter into with a supplier complements the terms of the CfD contract.

## 10. What if the generator and consumer are the same organisation?

### Merchant PPAs

By being both a generator and a consumer of electricity an organisation can naturally hedge against electricity price fluctuations:

- If an organisation enters into a fixed Power Purchase Agreement and fixed energy supply agreement at the same time and for the same duration one will naturally hedge the other.
- If the organisation enters a flexible PPA and a flexible energy supply arrangement and they track the wholesale price in the same way, they can also act as a natural hedge.

If a generator enters into a Contract for Difference (CfD), that provides price certainty for the generator for the 15-year duration of the CfD. However, a consumer will not be able to enter into fixed-price energy supply agreement for the same duration. This should be taken into consideration if the intention of developing generation sites is partly to hedge electricity supply prices.

### Corporate PPAs

- Setting up either a sleeved or virtual corporate PPA between the generation side of the organisation and demand side of the organisation is a more formal way of achieving and managing the price hedge.
- It can formalise the relationship between generation and demand and give both sides of the organisation budget certainty.
- It can also assist with communicating externally the link between the organisation's generation and use of electricity.

# 11. Applying for and managing a Contract for Difference

*Note: The information in this report is based on the structure of Allocation Round 4 (AR4) of the Contract for Difference auctions, held in 2021/22. Project developers should always refer to the BEIS website for information on the latest auction round.*

## How do project developers apply for a Contract for Difference?

CfDs are awarded through an annual auction process (referred to as an Allocation Round). When an **Allocation Round** is open, project developers can submit their bids through an online application portal on the EMR Delivery Body website.

To apply for a CfD, the generation project must meet the eligibility criteria. The latest criteria are published in the **Allocation Framework** and **Budget Notice** on the BEIS website ahead of each Allocation Round. They generally include:

- **Proof of company address and incorporation**
- Providing relevant **commissioning dates** for the generation project. The dates must fall within the delivery years relevant to the Allocation Round.
- **Technology applicability**: The generating technology type must be included in the Budget Notice.
- The project must have a valid **connection agreement**
- The project must have obtained all necessary **planning consents**
- Submitting a **supply chain plan** (applicable if over 300MW)
- Confirming that the project is not participating in the Capacity Market

Projects that meet the eligibility criteria are able to submit sealed bids setting out:

- The **capacity** of the generation project (MW)
- The **Target Commissioning Date**. If successful, the Contract for Difference will specify a **Target Commissioning Window**, within which the generator must commission the project in order to receive support for the full 15-year duration. The duration of the Target Commissioning Window is set out in the Allocation Framework and is technology

dependent. In AR4 it was 12 months for most eligible technologies, except Solar PV (3 months) and Landfill Gas (6 months)

- The **strike price** bid. This must be presented as **£/MWh<sub>e</sub> (in 2012 prices)**. This should be the minimum £/MWh value that generator is willing to accept for their electricity. The maximum strike price that applicants can bid is called the **administrative strike price**. This is set by BEIS and is published in the Allocation Framework. It is specific to each technology.

### How are CfDs awarded and how is the strike price set?

The technologies eligible for a CfD are grouped into different Pots, depending on their level of maturity. Each Pot has a maximum budget and may also have a limit on the capacity (MW) of projects that can be supported. This is detailed on the BEIS website, typically within the **Budget Notice**.

Within each Pot, strike price bids are ordered lowest to highest. CfD contracts are allocated to projects starting with the lowest strike price bid and continuing until the budget or capacity limit is reached. The auction uses a 'pay as clear' approach so all projects awarded a CfD within a given Pot receive the clearing price (the strike price bid of the last project awarded a contract). The only exception to this is when the administrative strike price for a particular technology is lower than the clearing price. In that case, those projects would be awarded the administrative strike price.

### What happens after being awarded a CfD?

The CfD is a private law contract between the generator and the LCCC. The contract is signed by both parties within a few weeks of a generator being awarded a CfD in the Allocation Round. During the period between being awarded a CfD and commissioning the generation project, the project developer must demonstrate to the LCCC that they have met interim project milestones.

Before the CfD Start Date Notice is issued, the generator must demonstrate to the LCCC that they have met the **Operational Conditions Precedent**. This includes demonstrating that the generator has installed an appropriate metering scheme. The meter must record the electricity exported to the grid from the CfD generator. This must be separate to any other imported or exported electricity from other demand or generation units on site.

### Does the strike price change over time?

Yes. The strike price increases in line with **CPI (Consumer Price Index)**. At the start of each financial year (1<sup>st</sup> April), the strike price is adjusted from its 2012 baseline to the present day.

Some CfD contracts also adjust the strike price to take into account changes in balancing system charges and/or changes to the transmission loss multiplier for delivered volume as these are considered to be outside of the control of the generator. This will be specified in the contract.

### How are generators paid under the CfD?

As set out in the previous chapter, the generator has two revenue streams:

- **Electricity sales to the wholesale market.** This could be via a PPA.
- **CfD payments / costs** – the difference between the Strike Price and the Reference Price.

The amount owed to the generator (or by the generator) under the CfD is calculated on an hourly basis:

$$\text{Difference Amount (£)} = \text{Generation (MWh)} \times (\text{Strike Price (£/MWh)} - \text{Reference Price (£/MWh)})$$

Every day EMR Settlement Ltd calculate the daily Difference Amount for each generator. An invoice or credit note will be issued to the generator within 7 working days. Payments due from EMR Settlement Ltd to the CfD Generator will be made 28 calendar days following the relevant settlement date. Payments due from the generator to EMR Settlement Ltd are due 10 working days following the relevant settlement date.

The CfD is funded through the supplier obligation levy which is managed by the LCCC. The generator is not involved in this process.

## Why might a CfD contract be terminated?

The LCCC may terminate a CfD Contract if the generator fails to meet any of the milestones between contract signature and project commissioning on time. The contract could also be terminated for failure to make payments EMR Settlement Ltd on time, or breach of the contract terms and conditions.

## What happens at the end of the CfD period?

The generator stops receiving and/or making payments under the CfD mechanism. The generator is free to continue to sell their electricity via any form of PPA.

## Where can I find out more?

Organisation	Information	Link
BEIS	All statutory notices relating to CfD auctions, including the Allocation Framework, Budget Notice and Standard Terms and Conditions. BEIS also publish consultations and decisions on changes to CfD policy.	<a href="#">Contracts for Difference</a>
LCCC	Guidance for generators and suppliers on the CfD contract processes.  Dashboards and data on existing CfD contracts	<a href="#">Guidance for Generators</a>  <a href="#">Resources - General Guidance, data and contract registers</a>
EMR Delivery Portal	Application portal (when open)	<a href="#">Contracts for Difference Portal</a>
EMR Settlement Ltd	Detailed guidance notes, including metering requirements (G8) and payment processes (G24).	<a href="#">Contracts for Difference and Capacity Market Guidance Documents</a>



## Gwasanaeth Ynni Energy Service

The Welsh Government Energy Service (“**WGES**”) is funded by the Welsh Government with the aim of developing energy efficiency and renewable energy projects that contribute to public sector decarbonisation and national energy targets. The WGES is delivered by the Carbon Trust, Energy Saving Trust and Local Partnerships (the “**Delivery Partners**”). This report (the “**Report**”) has been produced by the Delivery Partners and, whilst the views expressed in it are given in good faith based on information available at the date of this Report:- (i) these views do not necessarily reflect the views of the Welsh Government, which accepts no liability for any statement or opinion expressed in the Report; (ii) the Report is intended to provide general guidance only, rather than financial, legal or technical advice for the purposes of any particular project or other matter, and no-one in receipt of the Report should place any reliance on it in substitution for obtaining their own advice from an appropriate third party advisor; and (iii) any person in receipt of this Report should therefore obtain their own financial, legal, technical and/or other relevant professional advice insofar as they require specific guidance on what action (if any) to take, or refrain from taking, in respect of any project, initiative, proposal, involvement with any partnership or other matter to which information contained in the Report may be relevant; and (iv) the Delivery Partners accept no liability in respect of the Report, or for any statement in the Report and/or any error or omission relating to the Report.